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A
NEW AND EASY METHOD
OF GIVING
MERCURY,
TO THOSE AFFECTED WITH THE
VENEREAL DISEASE.

TO WHICH IS ANNEXED

A NEW THEORY of the ACTION of this
METAL on the SALIVARY GLANDS.

Translated from the LATIN of

JOSEPH JAMES PLENCK, Professor of
Surgery and Midwifery, at VIENNA.

THE THIRD EDITION.

TO WHICH IS PREFIXED,

A TABLE, exhibiting, at one View, all the PRE-
PARATIONS of MERCURY, reduced under
proper Heads.

WITH

AN APPENDIX of Remarks on Mr. PLENCK; together with
some Experiments and Observations which ascertain
with more Accuracy a steady and uniform Method of
giving his Medicine; and a short and easy Method of
preparing the MERCURIUS CALCINATUS.

BY WILLIAM SAUNDERS, M.D.
PHYSICIAN to GUY'S HOSPITAL.

Principium dulce est, sed finis amoris amarus,
Læta venire Venus, tristis abire solet. OVID.

L O N D O N :

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A

T A B L E,

Exhibiting, at One View,

*All the Preparations of MERCURY,
reduced under proper Heads, and taken
from Dr. SAUNDERS'S Syllabus
of Chemistry, printed for the Use of
such Pupils as attend his LECTURES
on that Subject in LONDON.*

QUICKSILVER.

A. Crude.

Hydrargyrus purificatus E. L.

B. in Vapour.

Mercurius ad suffumigia

C. Triturated.

A 2

a. alone.

a. alone.

Tragea Keyseri

b. with Honey.

Pilulæ Mercuriales E. 1744.

c. with Balsam.

Pilulæ Mercuriales L.

Unguentum cæruleum fortius et mitius L. E.

Emplastrum commune cum Mercurio L.

Mercuriale E.

Ceratum Mercuriale L.

d. with Resin.

Pilulæ Mercuriales E.

Æthiopicæ E.

e. with Gum.

Solutio Mercurialis Plenck.

f. with Suet.

Unguentum Mercuriale E.

g. with Absorbents.

Mercurius alcalifatus

h. with Sugar.

Mercurius saccharatus E.

i. with

i. with Sulphur.

Æthiops mineralis L. E.

antimonialis Ph. Paup. E.

D. Sublimed with Sulphur.

Cinnabaris factitia L.

—————*antimonii*

E. Calcined.

a. alone.

Mercurius calcinatus L.

—————*præcipitatus per se*

b. with Gold.

Mercurius præcipitatus solaris Astruc.

F. Rendered saline.

a. by Vitriolic Acid.

Mercurius emeticus flavus L.

Mercurius præcipitatus flavus E.

Turpethum minerale E.

b. by Nitrous Acid.

Solutio Mercurii E.

Calx Mercurii E.

c. by Muriatic Acid.

Mercurius sublimatus corrosivus L. E.

———— præcipitatus albus Boerh.

Aqua aluminosa E.

———— phagedænica E.

Mercurius violaceus diaphoreticus Astruc.

Flores ammoniaco Mercuriales.

Solutio Mercurii per deliquium Astruc.

d. by Vegetable Acid.

Mercurius tartarifatus.

Pilulæ Keiseri

G. Saline Preparations corrected.

a. Rendered mild.

aa. by abstracting Acid.

aaa. by Calcination.

Mercurius corrosivus ruber L.

———— calcinatus E.

———— præcipitatus ruber E.

bbb. by Attraction.

aaaa. of Water.

Pulvis Principis Lewis

bbbb. of

bbbb. of Alcohol.

Mercurius corallinus L.

Panacæa Mercurii E. 1744

cccc. of Water and Alcohol.

Arcanum corallinum Lewis

Panacæa Mercurii rubra Lewis

dddd. of Camphire.

Pilulæ e turpetho min. Ph. Paup. E.

ecc. by Attraction and Precipitation.

aaaa. of fixed Alkali.

Mercurius præcipitatus fuscus E. 1744.

bbbb. of Volatile Alkali.

Mercurius præcipitatus albus E.

cccc. of fixed and Vol. Alkali.

Mercurius præcipitatus albus L.

Unguentum e Mercurio præcipitato L.

dddd. of Volatile Alkali and Copper.

Mercurius præcipitatus viridis

bb. by Addition of Mercury.

Mercurius sublimatus dulcis L. E.

calomelas

Aquila Alba

cc. by Addition of Unguent.

Unguentum citrinum E.

b. rendered acrid or kept so.

aa. by redissolving præcipitate.

Mercurius præcipitatus solutus

bb. by Addition of Acid.

Solutio sublimati cum spir. falis

cc. by suspending with an ammo-
niacal Salt.

Mercurius corrosivus nitrosus

Ward's white Drop.









Mercurius corrosivus muriaticus.



T H E

A U T H O R ' s

P R E F A C E.

    Imagine it will seem
 I  wonderful to many,
  that quicksilver, a
metal next to gold in specific
gravity, can admit of an entire
union with a vegetable gum,
so as not to be barely mixed
with it, but to be so thorough-
ly extinguished by it, and so
firmly attached to it, as for
both to remain together for
some

some time suspended in water, and when a sediment takes place, both to fall down together, and never to separate.

THAT this is really the case, appears from a very simple experiment, and the more simple an experiment is, it becomes the more obvious, and the less subject to fallacy.

EXPERIMENTS of whatever kind are of themselves useful: for although they may bring no other advantage, yet they free the mind from prejudices; they elucidate what would otherwise be obscure; they distinguish doubt from certainty;

certainty; they restrain the licentiousness of fiction; they give entertainment from the variety of phœnomena they exhibit; they excite the mind to farther tryals; and last of all, they extend the limits of science.

BUT much more useful are such experiments, which, besides amusing the learned, redound in a public manner to the good of our fellow-citizens. Experiments either medical, chirurgical, or œconomical, have chiefly this effect.

OUR experiments here are of such a nature, which although they may of themselves

selves be curious, yet that alone would never have impelled me to write, if I had not found from a variety of tryals, that their use was very extensive. While indeed I saw, from repeated observations, that a very mild and innocent remedy could be prepared from Mercury, subdued by vegetable gum; when, besides, I perceived that it was very useful to those affected with the venereal disease, and therefore that it was a medicine of so great efficacy in those cases; I thought I should be wanting in my duty, as a member

ber to society, if I delayed the publication of them any longer.

As I am by no means rich, I might have consulted my own advantage more, I might have made use of a sordid prudence, by keeping it as a secret, and then perhaps it would have been more profitable. I might have followed the well-known example of KEISER, who has become rich by concealing the composition of his pills, though less efficacious; or of HERENSWAND, LANGHANS, HILL, and other such illustrious quacks, and thus have privately

vately laughed in my own sleeve. But I always detested such unworthy practices, and I will continue to despise them, as long as I live; I know well that we are religiously bound to assist one another as far as lays in our power*.

NEITHER the heathens, or barbarians, are so destitute of humanity as to forget the obligation of doing good, to which by the law of nature we are bound. How much

* 1 Pet. chap. iv. ver. 8, 10. And above all things have fervent charity among yourselves: for charity shall cover the multitude of sins. As every man hath received the gift, even so minister the same one to another, as good stewards of the manifold grace of God.

ashamed

ashamed would the fordid venders of these ARCANÆ be, if they were exposed to the public view of the old Assyrians or Babylonians, among whom there was a law, that no person should pass by the sick without communicating what remedies he was acquainted with for their relief, and that without either fee or reward.

THE constitution of physic at Vienna is in this respect well regulated, and this we owe to the wise councils of the noble L. B. VAN SWIETEN, who employs his whole attention, and bestows great labour in enlarging

larging the limits of medicine, especially of what relates to the practice : his attention wholly consists in this, that the most efficacious and certain remedies may be daily found out for the benefit and advantage of the unhappy sick, and likewise in totally banishing quacks, mountebanks, and the avaritious venders of arcana ; while, in the mean time at Paris, London, and in other large cities, that race of men are with impunity tolerated, to the common prejudice of mankind, and the reproach of physick :

ONE wise resolution of this eminent man, is, that if any remedy be sufficiently recommended for its great utility, it is immediately published for the general good; for certainly the private advantage of one or two persons is not to be preferred to the common good of our fellow-citizens.

THAT this is the fixed and stated opinion of this great man will appear evidently from what he has written formerly on the subject of the cancer*,
and

* Sect. 509. Comment. T. I. p. 901. Forte tamen et inde aliqua spes effulget, non penitus impossibilem esse canceri separationem a partibus sanis; licet Hactenus ignoretur, qua methodo, quibusve remediis, hoc fieri possit.

and, lately on other subjects †.

THE conduct of the celebrated STOERCK ought to be impressed on our minds, as an example and incitement to all, who being fortunate in his discoveries, has early applied them for the benefit of

Quam felix ille qui hoc inveniret? quanta pœna dignus, qui inventum celaret, turpis lucri causa?

† T. IV. § 1371. p. 729. *Sed quisque novit, arcanorum venditoribus non semper habendam esse fidem. Ingenuum decet, ut generis humani utilitatem lucro magis æstimet. Sed auri sacra fames sæpe aliud suadet; nunquam me pœnituit, candide communicasse omnibus si quid in arte utile novissem, nec pænitebit, certus sum illo tempore,*

“ ————— dum numina nobis

“ Mors instans majora facit.

society,

society, putting little value upon them, if they were not made publickly useful.

WHILE I revolved all these considerations in my own mind, while I had so many glorious examples before me, while besides I thought that it was the business of an honest and ingenuous man, if possible, to bestow his labours on what is of general utility, I found myself under the necessity to communicate to the public this new and easy method of giving Mercury to venereal patients in the manner I learned from experience.

NOR do I this from any prospect of gain ; the farther success of this method, and the great relief it may give to my neighbours, will afford me sufficient reward.

NOR do I fear the censures of the envious, since many eminent authors have met with such treatment for their good offices to mankind, though they resolutely withstood the slanders of envy,

*Quæ videt ingratos, intabescitque videndo
Successus hominum, carpitque et carpitur una
Suppliciumque suum est.*

OVID. *Metam.* Lib. II.



A

NEW and EASY METHOD

O F

Giving MERCURY to those
labouring under the V E-
NEREAL DISEASE.

CHAP. I.

The Origin of this Method.

✠✠✠✠ S O M E months ago, when I
✠✠✠✠ had occasion to write a book,
✠✠✠✠ in which I undertook to de-
fend the efficacy of the Corrosive
Sublimate in the cure of the Vene-

real Disease, that I might enquire into the cause by which Mercury more especially acted on the salivary glands, I conversed upon the subject with PHILIPPUS AMBROSIUS MARHERR, a very eminent physician, and my particular friend, who with his usual candour, told me, that as yet no just account of that phænomenon was given; — that many hypotheses had been thought of by a variety of authors, but that none of them was sufficiently accurate; — that the very plausible opinion of Dr. PITCAIRN, who seemed to many to have hit upon the thing, in attributing it to the specific gravity of the Mercury, was so fully refuted by (*) § VAN SWIETEN, that nothing more remained to be offered for its defence; in the

(*) § 135. C. T. I. P. 207.

mean time it seemed probable to him, that Mercury had a greater affinity with the saliva and mucus, than with any of the other fluids of our body, and that therefore the mouth and throat were chiefly affected by it.

— This discerning man likewise added, that he had seen a small quantity of Mercury by trituration disappear in the saliva, but that it was still probable, there was a greater affinity between Mercury and mucus; for Mercury not only runs to the salivary glands, but likewise to the mucous ones, and besides, that the more viscid mucus was much fitter for retaining it than the thinner fluid the saliva; and observed, that an experiment might be made to determine this matter with certainty, which has hitherto been neglected on account of its simplicity:

plicity : a very frequent cause, why many things remain concealed which might otherwise be easily known.

This opinion of my very judicious friend so pleased me, that I determined immediately to put it to the test of chemical experiments.

Therefore the next day, I made an experiment, and observed that a small quantity of Mercury was made to disappear in the saliva ; that however, the mucus received a larger quantity ; and that it united with it more expeditiously. And thereby I found that the opinion of my learned friend concerning the affinity of Mercury with these fluids was entirely confirmed by experiment, and immediately made him acquainted with the event. This being done, we unanimously agreed, that Mercury should

should be tried in the same manner with other mucilaginous bodies, both animal and vegetable, that it might appear whether there are not other gelatinous and viscid substances with which Mercury can be likewise united; and if there are any such, whether they differ in their powers more or less from that of saliva and animal mucus. — For this purpose the following experiments were made.

EXPERIMENT I.

Mercury with Animal Mucus.

I mixed one part of very pure Mercury with two parts of mucus discharged from the throat, by expectoration; I triturated them together in a marble mortar, and

exactly marked the time which was necessary for the compleat extinction of it; and I perceived that in the space of seven minutes the whole of the Mercury was converted into a greyish viscid substance: after the addition of water very little remained suspended, but it soon precipitated to the bottom; the Mercury, however, did not separate, but still remained entangled and united with the mucus at the bottom of the vessel. There was one scruple of Mercury and two of mucus. The saliva extinguished a much less proportion of Mercury; and its extinguishing any depended perhaps on its having a quantity of mucus united with it, it being impossible to obtain saliva perfectly free from it.

E X P E R I M E N T II.

Mercury with the Yolk of an Egg.

I triturated the whole of the yolk of an egg with one drachm of Mercury in a marble mortar for an hour: At first sight the Mercury seemed entirely to disappear; but upon adding a little water, it recovered its form, and the viscosity of the yolk being diluted, it fell down to the bottom in its metallic running state, and by degrees went into large globules entirely separate from other matter.

E X P E R I M E N T III.

Mercury with the White of an Egg.

The white of an Egg shews still less power on Mercury: for one

B 6 drachm

drachm of Mercury being triturated with the white of an egg for almost half an hour, was by no means extinguished by it, and upon pouring water to it, the Mercury run into large globules, and subsided to the bottom.

EXPERIMENT IV.

Mercury with the Blood and its Serum.

I mixed a quantity of quicksilver with the serum of blood, which, to obviate mistake, I took from myself, and I triturated them together, as in the former experiment. The extinction was very inconsiderable, and the union much less firm than that with mucus, for upon pouring water, the quicksilver immediately subsided in the form of small globules.

I tried

I tried the same experiment with the red part of the blood, and almost the same phænomenon occurred, only that the serum seemed to have more effect than the red part upon the Mercury.

EXPERIMENT V.

Mercury with fresh Animal Bile.

I triturated one drachm of Mercury with two drachms of the recent bile of the pike fish, for half an hour: it was with great difficulty that the smallest portion of it could be extinguished, and upon the affusion of water, the Mercury soon subsided to the bottom, and run into larger globules.

EXPE-

E X P E R I M E N T VI.

Mercury with Isinglass.

To two drachms of Isinglass reduced to the consistence of glue, I added one drachm of Mercury, and triturated them together with great labour for more than half an hour : but all was in vain ; the smallest quantity of Mercury did not unite with it.

It is well known that quicksilver can be very readily extinguished by animal fat ; but so perfect a division, and so thorough an extinction cannot be thereby obtained as by mucus ; for the fat being rendered more liquid by heat, nay even spontaneously, the Mercury in Neapolitan ointment will subside to the bottom.

C O R O L -

C O R O L L A R Y.

From these experiments it evidently appears that Mercury has a much greater affinity with mucus, than with other animal fluids; and hence it seems probable, that if other animal fluids unite with it, it is owing to the quantity of mucus which they contain.

E X P E R I M E N T VII.

Mercury with the Mucilage of Gum Arabic.

When therefore, from the former experiments, I learned that there are no animal fluids but mucus that is proper for extinguishing Mercury, curiosity excited me to try whether

7 vegetable

vegetable mucus or gummy substances might not do the same ; therefore I triturated one drachm of quicksilver, with two drachms of gum arabic for a quarter of an hour in a stone mortar, adding by degrees a small portion of water, so as to give it the consistence of a mucilage. To my great surprize the Mercury suddenly disappeared, and the whole being carefully rubbed together, became a viscid grey mucus, which being diluted and agitated with a pound of water, the whole became of a grey colour, and one part remained suspended in it, while another part, upon allowing the vessel to stand at rest for some minutes, was slowly deposited to the bottom in the form of a grey sediment, in which the Mercury was so thoroughly extinguished

guished by the viscid mucus, that although a large quantity of water was added, they remained united together, and the Mercury did not run into globules as usual. By a gentle agitation of the vessel, the whole of this mucus was again readily united with the water, and on the surface of the water, somewhat elevated, there was a white froth, which, together with the water, held the Mercury suspended in a very subtile attenuated state; for, upon immersing a gold ring in it, it was perfectly whiten'd and silveriz'd.

I repeated the same experiment with a smaller quantity. A scruple of gum arabic was reduced to mucilage, and mixed with ten grains of Mercury, that it might be an experiment similar to the first.—In the space of
 six

six minutes the Mercury was entirely extinguished, while seven minutes were necessary in uniting it with animal mucilage; therefore Mercury admits of a much more ready union with the gum arabic.

The gummy mercurial sediment remained for a long time, even for many weeks, without undergoing any change, unless that in a length of time it became somewhat grumous, more black, and was less equally miscible with the fluid on its surface; it however did not deposit the whole of the Mercury, until the liquor above being previously separated by a filtration, was exsiccated by the heat of a furnace; then indeed the power of the mucilage was destroyed, and the Mercury separated, and was
now

now to be observed in the form of the globules of quicksilver.

EXPERIMENT VIII.

Mercury, by the Assistance of Gum Arabic, intimately united with Animal Fluids.

From the former experiments (2, 3, 4, 5, 6,) it appears that the blood and its serum, the yolk and the white of an egg, the bile, and isinglass, are insufficient for extinguishing any considerable quantity of Mercury; but if any quantity of the mucilage of gum arabic be mixed with these, the Mercury is immediately equably united with them, just in the same manner as when animal mucus itself is added: hence quicksilver, by means of this substance, is even rendered miscible

miscible with others, with which it has either no affinity, or a very small one.

EXPERIMENT IX.

Mercury with Gum Tragacanth.

The power of gum tragacanth is by no means the same: For this, reduced to a mucilage, upon the addition of water, in no manner answered my expectation: for although I used every endeavour, and continued a trituration for half an hour, the smallest quantity of Mercury could not be extinguished, and upon pouring water, and thereby diluting the mucilage, it retained the form of quicksilver, with its metallic splendor, and fell down to the bottom of the vessel.

EXPE-

E X P E R I M E N T X.

*Mercury with the Mucilage of the Seed
of Quinces.*

The same effect nearly followed from the mucilage extracted from the seed of the quince, three drachms of which being triturated for half an hour with one drachm of Mercury, there was no mark of any combination.

E X P E R I M E N T XI.

*Mercury with the Farina of the Root
of Marshmallows, and Starch.*

With a very fine farina of marshmallows, I mixed a small quantity of water, that it might form a kind of glue: a small quantity of Mercury was added, and triturated for a
con-

considerable time ; but from this no extinction of the Mercury was observable. When Mercury, however, was triturated with a quantity of starch, it was somewhat extinguished ; starch containing an animal gluten in it *.

EXPERIMENT XII.

Mercury with Manna of Calabria.

I tried pure manna in the same manner, because it seems to contain a quantity of mucilage, and it is a common opinion that it enters into the composition of Keiser's pills. I carefully triturated two parts of it with one of Mercury for a quarter of an hour, but I could scarcely ex-

* Cl. Professor Crantz, Mat. Med. T. 1. p. 9. & illustr. L. B. Van Swieten, C. T. iv. p. 107.

tinguish

tinguish any ; however, upon repeating this experiment with common manna, I saw a large quantity of Mercury sufficiently extinguished by it.

EXPERIMENT XIII.

Mercury with Crude and Clarified Honey.

To two drachms of crude white thick honey I added one drachm of quicksilver, and triturated them both together for a quarter of an hour. The Mercury was pretty well extinguished, and, contrary to my expectations, after adding water to it, remained extinguished, and deposited a grey sediment at the bottom of the vessel, but less easily miscible with water than that which arose from the union of gum arabic and Mercury.

Mercury. I repeated the same experiment with clarified honey, but none of the Mercury was extinguished; for upon the effusion of water the whole appeared at the bottom in large splendid globules.

Crude honey contains some mucilage in it; hence it is that it is so fit for extinguishing Mercury: But that mucilage is lost by boiling and clarifying; for which reason it has no such power on Mercury.

EXPERIMENT XIV.

Mercury with simple Syrup.

Very pure white sugar being formed into a simple syrup, with half its quantity of water, and tho' long triturated with Mercury, did not extinguish a particle of it.

But this effect happened, contrary to expectation, that although neither sugar nor syrup shewed any effect in extinguishing Mercury, yet they even increased the power of gum arabic in this respect; so that, by the assistance of sugar or syrup, this mucilage united more firmly and tenaciously with Mercury.

It is to be observed, that when sugar was triturated with Mercury it became black.

The same experiment was try'd with a variety of syrups, such as of diacodion, of kermes, and of violets; and I always observed that a more thorough extinction of the Mercury with the mucus was thereby produced.

In this manner, by different syrups, a variety of colours, taste, and
C smell,

smell, may be communicated to Mercury, so as to conceal it from the knowledge of suspicious persons.

EXPERIMENT XV.

Mercury with Linseed Oil and Fat.

I extinguished Mercury in the pure oil of linseed, with little labour, but a small quantity could only be thus united with the glutinous sediment of the linseed oil. Water occasioned a sediment of the consistence of butter, and when this was separated the Mercury could not be extinguished in it. Perhaps by a boiling heat Mercury might be made to form a more intimate union with oil, which experiment, however, I have not try'd.

But Mercury extinguished by gum arabic will admit of a very ready union with either oil or fat; nor will it

it separate and fall so soon to the bottom, as it does in the common Neapolitan ointment. — See Experiment VI.

C O R O L L A R I E S.

From these Experiments (7, 8, 9, 10, 11, 12, 13, 14, 15) it evidently appears,

1st. That of all vegetable, gummy or plastic substances, gum arabic is the only one which in its nature approaches the nearest to animal mucus: hence it is to be preferred in extinguishing of Mercury.

2dly. That the extinction of the Mercury by means of animal mucus and gum arabic, does not depend upon mechanical principles, nor can it be referred only to the viscosity of the

C 2 mucilage;

mucilage; for many other substances, more viscid and tenacious, when longer triturated with it, by no means answer the same purpose; and water, which is the best and purest menstruum for gummy substances, can neither separate animal mucus, nor mucilage of gum arabic from Mercury, provided they had been intimately united together; the contrary of which takes place in the mucilage of gum tragacanth, in that of quinces, and others.

3dly. And then, although mechanical triture greatly assists the extinction of Mercury, a true affinity exists between Mercury, animal mucus, and gum arabic; and this is the reason why, when once united, they remained so firmly attached to one another: nor does the mucilage rather

ther attract the water, but immediately joins it to the Mercury, so that they all remain intimately united.

When I had sufficiently proved every thing by experiment, and when I was convinced thereby of the affinity which Mercury has with the saliva and animal mucus, which my ingenious friend first suggested to me, I did not doubt but that his opinion with regard to the action of Mercury in the throat and salivary glands was well founded, and it carried more probability along with it, than that of all the rest.

But since gum arabic in every respect excels the animal mucus in extinguishing Mercury, it seemed to me that this was the fittest and most natural vehicle of Mercury, by which, as a medium, it could be united

with all the fluids of our body. However being little solicitous about forming a new hypothesis, I believed that my labour might be more usefully employed, if I tried the effects of such a preparation in those who had the venereal disease, that we might be assured whether it could pass the PRIMÆ VIÆ in such a form; for if it could pass into the blood in this manner, we did not doubt but that it might cure the venereal disease more effectually than any of the other preparations; and that from its being perfectly mild, and destitute of such acrimony as might hurt the body, while the other preparations cannot be given in large doses from the great quantity of saline acrimony that adheres to them, and when prescribed in small doses,

doses, they act only after a considerable length of time, and cure the disease very slowly.

I was from this time determined, by the approbation and advice of a very ingenious man, to take the first opportunity of trying Mercury thus prepared, when any person should offer who laboured under the venereal disease.

Three days after, a woman with the venereal disease came to me, whose history is mentioned in the first observation: afterwards others came labouring under the same disease, whose cases are given in the following observations.

When I perceived in all these cases the remarkable and sudden efficacy of this gummy preparation of Mercury; and constantly observed

that its usefulness exceeded my most sanguine expectations, so that in a short time it did more than could be expected from all the other preparations; and farther found that no salivation could be excited by this preparation, although given in very large quantity, unless there was another mercurial in the body, or during the cure another besides the gummy mercurial was taken; I was fully convinced that this was the best method of giving Mercury, and that no other could be compared with it.

Having thus discovered my method of preparing Mercury, I shall now submit to the public, for very important reasons, already offered in the preface, my own observations and those communicated to me by others.

C H A P.



C H A P. II.

*Practical Observations regarding the
Efficacy of this gummy Mercurial
in the Venereal Disease.*

A Woman aged twenty-eight, of a sanguineous temperament, who had for some months venereal blotches on her forehead and face, and a very ugly scab over her whole body, labouring under the fluor albus, watchings in the night-time, and pains of the joints, came to me, to

sell her poultry, and being much ashamed, she covered her face over with a cloth.

Nobody would buy her poultry from her, on account of her being of a nasty appearance; I immediately knew the disease, and after examining her, I promised that as she was poor, I would give her Medicines for nothing, if she would return to me every three days, and let me know how she did.

The day after, she took a mercurial purgative, and the following day she began to take one spoonful of the simple solution (No. 1.) morning and evening, with a decoction of sarsaparilla and hemlock; she likewise used the warm bath.

She returned three days afterwards, and her pain was somewhat abated; I
ordered

ordered her to continue the bath, and to take two spoonfuls of the solution morning and evening.

She returned three days after, and was entirely free from her pains, some of the spots had disappeared, she rested better in the night time, her fluor albus was the same as before.

On the thirteenth day all the spots disappeared, there were no nocturnal pains. I gave her a fresh quantity of the mercurial solution, to which I added the balsam of capivi, as is prescribed in (No. 2.)

The woman returned in eight days after, free of all her symptoms; except the fluor albus, which was by no means abated, because she still admitted the embraces of her husband, as she herself confessed. I or-
C 6
dered

dered that her husband might be brought, and I promised to cure him for nothing.

But being free from her former complaints, she became negligent, she would not hearken to my advice, and has never since returned.

Yet I will, on this account, not allow that this observation is in the least imperfect, for it sufficiently proves the efficacy of our remedy in removing her former complaints.

This woman swallowed more than three drachms of the gummy mercurial, nor was there the least sign of a salivation.

OBSERVATION II.

A soldier, aged thirty, of a sanguineous habit, having some months
ago

ago a gonorrhœa stopt, he contract-
ed a pox, and besides venereal blotches
on his forehead, and on both sides of
the frontal bone, he had a broad to-
phus, not however much elevated;
he was likewise troubled with pains
of the joints; his throat, and the
glans penis, were much ulcerated.

Having given him a purgative, he
began to take daily two spoonfuls of
the solution No. I. with a decoction
of the sarsaparilla without milk.

All his complaints were entirely
removed in six days, without any sa-
livation, unless, that when he was
exposed to cold, there appeared very
broad reddish spots on his forehead
and face, very different however
from the former, and which again
disappeared of their own accord by
the heat of a stove. I still persuaded
him

him to repeat his medicine, which he did, and was entirely cured in eight days. Although this patient had always formerly a gentle salivation excited even by a mild purgative, yet after taking three drachms of this gummy mercurial, which effected the cure, no sign of salivation could be perceived.

OBSERVATION III.

A Soldier, aged thirty-six, of a sanguineous temperament, had a violent rheumatism in his right arm, from a venereal cause. In the middle of the os humeri there was an incipient tophus. There was besides a foul ulcer in the upper part of the first metacarpal bone which corresponds with the thumb. These

com-

complaints had continued more than six months.

But a gonorrhœa being some days before stopt, there came on a swelling and pain of the testicle, which brought on a strangury in making urine.

He was blooded on the first day, and the same day he took a cooling purge; an emollient fomentation was applied to his scrotum. The day following he swallowed emulsions of almonds, gum arabic, syrup of diacodion, and likewise many cups-full of decoction of sarsaparilla, with mullein and marshmallows.—He went on in this way for three days; the pain of his testicles ceased. The gonorrhœa did not even return; he made urine more easily; the left testicle remained swelled; the right
was

was much diminished in size. A balsamic essence in which there was two grains of corrosive sublimate dissolved was applied to the foul ulcer.

My mercurial ointment (No. 6.) was applied to the tophus. There was given internally two spoon-fulls of the solution (No. 1.), with the decoction of sarsaparilla and the emollients.—There was also applied to the swelled testicles my mercurial ointment, with the ung. de Lithargyr.

All these things were continued for eleven days; the tophus disappeared, the swelling of the testicles was resolved, and the rheumatism was cured, the callous edges of the ulcer disappeared, and it became perfectly clean on its surface. I then applied the balsamic mercurial ointment to it; and

and in fourteen days he left Vienna perfectly cured.

During the whole time that he took six drachms of this gummy mercurial, he had not the least sign of salivation.

OBSERVATION IV.

A man, aged twenty-eight, of an emaciated habit, who had been for more than a year troubled with a dry scabby eruption, was at last seized with a gonorrhœa, which he has now had seven months.

On the first day he was purged, on the second day he began the balsamic mercurial solution (No. 2.) with the decoction of sarsaparilla, burdock, and polypody.

In eight days neither the gonorrhœa or scabby eruption was changed;

ed; the urine only flowed more copiously.

In other eight days the running of the gonorrhœa was in less quantity and whiter, but the eruption continued as before. I was therefore persuaded to wash his extremities with a vegeto-mineral water, composed of one pound of fountain water and one drachm of the acetum lithargyrii.

Nor was the scabby eruption changed for eight days after, altho' the gonorrhœa was much diminished.

Therefore I employed for the eruption the following ointment:
 R. Pulv. Helebor. Alb. Sal. Ammon. Crud. a ʒj. Axung. Porcin. ʒij. Ol. Rosac. gutt. x. m. f. Ung.
 to be applied to the extremities twice a day, sometimes to one scabby part, sometimes to another. And thus in
 the

the space of eight days, by continuing the balsamic solution of Mercury, the gonorrhœa was cured, and in a short time the scabby eruption entirely disappeared.

This eruption, however, was not venereal, but received in some other manner.

The good effects of the white hellebore in the itch, which I have frequently experienced, I owe to the most eminent and skilful Dr. Pringle *.

OBSERVATION V.

A widow, aged 47, of a thin habit of body, was afflicted, for more than two years, with a very malig-

* Observat. on the diseases of the army, on the itch, p. 311.

nant fluor albus, afterwards with the gout, head-ach in the night-time, ulcers of the throat, venereal protuberant blotches on her forehead and face, condylomata about the anus, the bones of the nose carious, an incipient tophus of the left elbow, an ugly scrophulous sore in her neck; and for all these complaints she asked my advice.

Having given her a purge, the day after she began to take morning and evening two spoon-fulls of the balsamic mercurial solution, and to drink the decoction of sarsaparilla and hemlock with milk.

She washed her throat and nose frequently in the day time with the gargarism (No. 4.); she touched the venereal blotches of her forehead and face every day with the caustic solution

tion (No. 3.) diluted with a good deal of rose-water.

The venereal blotches, in three days time, were covered over with a crust, and perfectly dry.

In eight days the pains abated, the blotches entirely disappeared, so that the smallest vestige of them did not remain.

The other symptoms remained the same.

She continued for some days to take the mercurial solution, but being seized with an intermittent fever, I omitted the solution: a purgative, and afterwards the Peruvian bark was prescribed for her, by a very eminent physician who first committed her to my care.

The fever ceased in four days, the venereal symptoms continued as before,

fore, except that the ulcers in her throat were better.

She began again to take the solution; her throat became much better, her nostrils however were more swelled: I then ordered her to draw up into her nose the decoction of the hemlock mixed with the mercurial balsamic gargarism; and a poultice of bread and milk was externally applied to her nose.

In four days the swelling of her nose disappeared, and there dropt from her nostrils a large quantity of a sanious purulent matter.

Eight days were scarcely elapsed, when she was seized with a very irregular intermittent fever.

She then abstained from every mercurial, and after being purged, she repeated the use of the bark;

the fever disappeared in fourteen days, * but the venereal symptoms which yet remained became much worse. Being at last free from the

* The very eminent PETIT, the father, is of opinion that a quartan fever is sometimes a symptom of the venereal disease, and therefore he cures quartan fevers by salivation, in those persons who many years before have had venereal symptoms, and even some after they have resisted febrifuge medicines. *Memor. de l'Acad. Royale de Chirurgie*, tom. I. p. 347, &c.

But V. SWIETEN has given us an observation which leads to a contrary opinion: during the course of a salivation, he observed a quartan fever of a regular type. *Comment.* tom. I. p. 10. I can positively affirm that I have seen an intermittent fever brought on by unction in venereal patients, which could be cured by no other remedy but the bark; and as often as the Mercury was repeated, so often did the fever return.

intermittent

intermittent fever, she used, for three weeks, the solution and other remedies, so that the pains, head-ach, tophus, and scrophula, entirely disappeared.

The fluor albus remained, but less violent and whiter; the cariousness about the nose and the condylomata about the anus were not gone.

The condylomata were touched with the caustic solution; they became immediately smaller; a crust was formed. The other means are continued, and I hope I am about to effect the cure.

OBSERVATION - VI.

A man aged 45, of a thin habit, has been for nine years so afflicted with repeated gonorrhœas, that
he

he has been scarce eight days without this troublesome running; the fluid discharged at the time he began my medicine was thin and yellow, he has an itching in the middle of his urethra, and while he makes urine he feels a very troublesome tension, and has a very painful chor-dée. I advised him not to trust to a cure which was promised to him by a quack, by using a secret medicine by injection.

The next day he took a purge, and the day after I suspected that there was an abscess in his urethra; I therefore introduced a bougée covered over with the balsam of arcæus.

On the third day, when I tried to introduce a new bougée, there was suddenly felt a pain in the mid-

D

dle

dle of the urethra, and there was a greater quantity of yellow pus, mixed with some drops of blood, suddenly discharged, which might have filled a tea-spoon.

He took for eight days morning and evening two spoon-fulls of my balsamic mercurial solution; for his ordinary drink, he drank twice a day a decoction of sarsaparilla and hemlock with milk; for half an hour he introduced a bougée covered over with the balsamic mercurial ointment.

During almost eight days, the running of the gonorrhœa was very copious.

In other eight days the flow was less, and the colour was whiter.

He

He continued for some time in this method, and at last dry * bougées were introduced; the running by degrees ceased altogether, so that, on the thirtieth day from the beginning of the cure, he went away from Vienna perfectly well, and promised to write to me if he had any relapse of his ailment. During the whole cure there was no symptom of salivation.

OBSERVATION VII.

A man aged thirty-six, of a sanguineous habit, for more than five years had been affected repeatedly with gonorrhœas; he had sometimes also ulcerations both on his prepuce

* For the composition of the bougées, you may consult the surgical works of the most skilful and excellent GOULARD, written in French, Tom. II. which book cannot be sufficiently admired.

and glans, and one large condyloma on the glans.

After giving a purgative, on the following day he took the mercurial balsamic solution. The ulcers were dressed with the mercurial ointment. The condyloma was twice every day touched with the caustic solution.

On the first day the ulcers became larger and more suppurating: on the eighth day they were perfectly cured: on the thirteenth day the condyloma was perfectly dry.

The running of the gonorrhœa was less in quantity, and I introduced a bougée covered over with mercurial ointment.

He was thus entirely cured in four weeks; nor was there, during the cure, the least sign of a salivation.

OBSERVATION VIII.

A man aged twenty-eight, of a thin habit of body, contracted pains in the joints by a gonorrhœa that had been stopt three years ago; at last the glands of his neck became scrophulous; and he had seven broad deep ulcers in his throat, when he committed himself to my care.

On the first day he was purged, on the next day I ordered him to take two spoon-fulls of the simple solution morning and evening, and for his ordinary drink he had a decoction of sarsaparilla, hemlock, and the pectoral species with milk.

On the fourth day a gentle salivation began: however, the fluid discharged was more glutinous than

the salivary, but during it, the ulcers of the throat became very foul, on which account they were touched twice a day with a feather dipt in honey of roses, which was mixed with a small quantity of Egyptiac ointment; he frequently washes his mouth, and injects into his throat a balsamic gargarism prepared without the gummy mercurial: he was ordered to take one spoonful of the mercurial solution morning and evening.

The salivation thus continued until the seventh day, but was very gentle, attended with neither inflammation of the gums or loosening of the teeth; three, and sometimes four ounces were discharged in a day, the ulcers became daily cleaner and smaller. What seemed to me
surprizing,

surprizing, was, that at last the salivation ceased even under the continuance of the solution ; and although again, morning and evening, two spoonfulls of the solution were taken, yet during the rest of the cure there was no farther sign of salivation.

By the sixteenth day all the seven ulcers of the throat were perfectly cured, the pains were entirely gone, and he rested well in the night time. But, contrary to my inclination, one of the scrophulous glands was by a quack eroded and ulcerated by means of a blister. I then ordered that the open sore, which was as yet very hard about the edges, might be dressed with balsamic ointment mixed with the gummy mercurial. The other glands were rubbed with my

D 4 mercur-

mercurial cerate, and afterwards covered over with a plaister.

In eight days after, all the scrophulus glands disappeared, and the open ulcer was healed.

It may be asked, whether the salivation was in this case produced by my mercurial preparation, or by the former Mercury which might be still in the body? In the seven first observations there was no sign of a salivation; and besides, this salivation only lasted for seven days, nor did it continue although the dose of the gummy mercurial was increased, which was repeated even for three weeks.

Besides, this man had been taking a variety of mercurial preparations for many years, and not long before my cure, he had been using it by friction,

tion, so as even to have a salivation excited, and that without effecting a cure.

From the following observations I learn that a salivation may be excited in those persons, who immediately before the use of my mercurial, or during its use, have taken other mercurials internally, or applied them externally. I have seen this happen from the emplastrum Vigonis, Neapolitan ointment, calomel, and a solution of corrosive sublimate in spirit. The gummy mercurial seems to accommodate itself so well to the salivary glands, that any other mercurial taken either before or during the use of this mercurial, more readily brings about a salivation.

OBSERVATION IX.

A girl eight years of age, of a sanguineous temperament, had for more than half a year the labia vulvæ, the perinæum, and the whole circumference of the anus covered over with small condylomata; she had likewise a very foetid fluor albus.

The first passages being cleansed, she began to take the balsamic mercurial solution, and the condylomatous crusts were touched twice a day with the caustic solution, so that in three weeks they disappeared, and on the fourth week the fluor albus was cured.

She had, however, a very troublesome itching of the vagina after the condylomata were cured, while the fluor albus continued. In three days the itching went off, by anointing the vagina with the mucous mercurial

rial ointment, and three times bathing in the water of the Danube.

OBSERVATION X.

A man, aged thirty-five, twelve years ago having a venereal bubo, which went off by resolution, was seized with violent pains in his joints, which were treated by a variety of mercurial preparations: they were lessened by these means, but never entirely cured; and now he has for six years lived perpetually affected with these pains, and last year a venereal gummi arose from the seventh true rib of his left side, which, by degrees, ulcerating, gave out a large quantity of sanious pus: it was treated with exsiccants; and partly for the cure of the pains, and partly for that of the gummi sore, Baden bath was ordered for the patient; he be-

gan the use of this bath, but while he was in it the third time, he was seized with a palsy in one side, therefore he returned to Vienna.

The pains were so violent, that, altho' he lost the motion of one side, he loudly complained of them.

The patient was found in this situation by a very eminent surgeon, who brought him to me, and then, by the advice of a very skilful physician, my gummy mercurial was prescribed for him, with the decoction of sarsaparilla and milk; the ulcerated tumour was dressed with the balsamic mercurial ointment.

On the third day the patient could move his fingers more easily, and with less pain; the ulcerated tumour on the rib began to discharge more pus.

On

On the fourteenth day the gummi was resolved and cured: the venereal pains and palsy disappeared in four weeks. A sciatic pain, however, still continued, for the cure of which a very eminent physician prescribed pills prepared from the gummy mercurial, hemlock and camphor, and in three days after the pain entirely left him.

OBSERVATION XI.

A girl, aged 23, had for six months venereal scabs, and condylomatous cristæ on the back part of the neck, the cheeks, and hands; had likewise a fluor albus, violent rheumatic and arthritic pains, especially in the night time: a large tophus also occupied the right tibia.

In

In fourteen days the scabs and condylomata were much mended, by the use alone of the gummy mercurial and the sarsaparilla, and at the same time all the pains left her. There were no signs of salivation. The emplastrum Vigonis was from this time applied to the tophus, whose height was somewhat less than half an inch. In six days after, the girl perceived a salivation, and felt a difficulty in swallowing. A purge was ordered her, and her throat was washed with the vegeto-mineral water; so that in three days, the plaister and gummy mercurial being omitted, this gentle salivation entirely ceased.

Some time after, she began again to take the solution, and without perceiving any salivation, she was perfectly

perfectly cured. This, however, is surprizing, that during the use of this remedy a new tophus appeared in the left tibia, and which, after some days, entirely went off.

OBSERVATION XII.

A child of a year and a half old, whose parents were not venereal, had, for half a year, condylomata about the anus, rhagades, and small ulcers in the angles of the mouth.

The parents believed that there was a venereal infection communicated to the child, by cloaths which had been used by others who had this disease.

An eminent physician, after giving a gentle purgative, prescribed half a drachm of the gummy mercurial, minutely divided in two ounces of the

the fyrup of violets, diluted with one ounce of the water of fumatory.

A tea spoonful of this fyrup morning and evening, was given to the child, with the decoction of farfaparilla. The condylomata were touched twice with the caustic solution, diluted in rose-water, and immediately after, the ointment was applied to them. The ulcerated angles of the mouth were twice a day dressed with the mercurial balsamic ointment.

By this means the child slept well on the fourth night, who, for some months before, had very restless nights; the angles of the mouth were for two days rather more ulcerated, then they became cleaner, and on the tenth day were perfectly cured.

The

The condylomata were perfectly dry on the twenty-third day; the child became well, and there was no sign of a salivation.

I might to these have added many other observations, by which the successful and expeditious effects arising from the use of this mercurial were farther proved; but I choose to pass them over, as of less moment; nor were the diseases so violent as those already mentioned, and more especially, as I shall give such other practical remarks as on a future occasion may prove worthy of notice.

In fact, I expect every day to experience the good effects of it, and more especially as I now understand that this preparation is frequently prescribed for the sick by the most eminent

eminent physicians in this city ; and what more directly confirms me in this opinion, is a friendly letter I have received from Mederer, surgeon to a regiment of Danish curassiers, * who attests the great success of this remedy in a variety of cases.

In almost all those that used this remedy, I observed a greater secretion of urine, which flowed not only in larger quantity, but was mucous and foetid.

* I have tried quicksilver twice mixed with water, agreeable to the art found out by you and the surgeon general, Mr. Zierzon, at Arad, has tried it above thirty times. The good success arising from it has occasioned its use at the hospital of Temesvar, of which I will afterwards give you a particular account &c.—[Translated from the German.]

Siclo, near Arad,
1st of Aug.

MEDERER

In

In some, however, in the space of a few days, there was relief from a spontaneous discharge by sweating; in none, however, did a diarrhœa or salivation come on, unless when other mercurial preparations had intervened. The belly of all of them was regular, and even in those who were otherways costive.

In some a fluor albus, in others a gonorrhœa was brought on again for a few days.

I have perceived nothing peculiar occur in indurated old buboes. I have seen tumours of this kind rendered softer by the external application of the mercurial ointment, and the internal use of my gummy mercurial, but have as yet never been able to effect a perfect resolution; nor will that seem surprizing, since it is obvious

obvious to every one, how obstinate these indurations are, and how long they resist medicines of the greatest efficacy.



C H A P. III.

Conclusions relating to the Venereal Disease, drawn partly from the Observations already made, and partly from those of others.

WHETHER is not my method to be preferred upon an accurate comparison of it with others in use ?

At present there are three different methods of giving Mercury.

Some apply Mercury externally in the form of unction, so as to bring on a salivation, and by thus salivating

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ing their patients for some weeks, attempt to cure the disease.

Others apply it externally in a very small quantity, and by the interposition of purgatives, prevent a salivation.

Others, again, use a variety of mercurial preparations which are taken internally.

From pathology we learn, that five POSTULATA are required before the venereal virus can be perfectly destroyed by Mercury.

1. That so much Mercury be taken into the body, as is necessary for overcoming and destroying the venereal virus that exists in it.

2. That the Mercury flows freely through all the small vessels of our system.

3. That

3. That it impregnates every particle of our fluids.

4. That it remains united with our fluids for some length of time, and frequently circulates with them.

5. That at last the virus along with the Mercury be conveniently evacuated by natural excretions

I shall now in a few words enquire, whether the first, second, and third methods are sufficient for these purposes? or whether my method be preferable to them?

In a mercurial salivation the Mercury is very thoroughly and copiously blended with our fluids; but that it is generally discharged out of the body on the first days, appears from
this,

this, that a piece of gold held in the mouth then becomes white; though afterwards, unless a fresh quantity of Mercury is taken in, the saliva has no such effect; a sure proof that all the Mercury is evacuated from the system *. This seems to me to be the reason, why many by repeated salivation have not been cured of the venereal disease, especially those who had a salivation soon excited in them after the second or third anointing, by which the Mercury was too soon evacuated out of the body.

Besides, a salivation is very *inconvenient*, is *dangerous*, does not give a *certain cure*, is not *critical*, nor can

* Illustr. Von Rosenstein Abhandlung von den Kinderkrankheiten, C. de Lue Venerea.

it be excited in *every subject*, nor is it necessary in any.

All this may be demonstrated in the following manner:

The *inconveniencies* arising from it appear of themselves, when we consider the tediousness of the application of the unction, the inflammation of the throat that frequently attends it, the fever that is always present, a necessary abstinence from almost all kinds of food, an uninterrupted discharge of saliva for six or more weeks, a continual fear of suffocation upon the least exposure to cold, troublesome exulcerations of the throat, a stinking breath, and finally the body emaciated after the cure. I shall say nothing of the consequences arising from a constant confinement at home, from the pu-
E
trid

trid atmosphere that constantly surrounds him in his chamber, and besides of his being deprived of the company of his friends. Nor need I add more, since * VAN SWIETEN, has with so much clearness pointed out the inconveniencies arising from a salivation.

But a salivation is likewise a *dangerous* practice; for the famous ASTRUC † attests that there frequently supervene, violent Fevers, Diarrhœa, Dysentery, Hæmoptoe, an immobility of the jaws, and likewise a suffocation, and that too when the salivation has been most properly con-

* Comment. T. I. §. 135. p. 206, 207.

† In his book on the venereal disease.

ducted;

ducted; and after him the most skilful † LOCHER tells us the same.

That salivation is not a *certain* method of curing, appears from this, that there are many instances of patients, whose venereal complaints have returned after a first and second salivation had been properly conducted. Besides ASTRUC himself very candidly acknowledges that neither gonorrhœas, condylomata, fistuli or pains in the bones, exostosis, scirrhus, caries, rhagades, obstinate ulcers, herpes, lichenes, gummata, or cancers, can be cured by a salivation, altho' most skilfully managed *.

Nor is salivation a *critical* discharge; for we have no observation

† MAXIMIL. LOCHER, Observat. practicæ circa Luem. p. 12.

* L. c. a. pag. 427. ad p. 453.

to prove that a salivation coming of its own accord ever cured the venereal disease. Besides there are many observations, which prove that those infected with the venereal disease, have been radically cured without any salivation whatsoever. And the most healthy person by taking Mercury, will have that fœtor in his saliva, which attends salivation in the venereal disease.

Nor is it *necessary* for the cure of the venereal disease; for there are many examples of people who have been violently poxed, and yet have been thoroughly cured without salivation.

Since then it may be demonstrated by experiments that Mercury cures the venereal disease, only by destroying the virus, it will easily appear
that

that salivation is by no means necessary for that purpose.

And Mercury, together with the venereal virus, may be more conveniently and more easily evacuated by the ordinary excretions of sweat, stool, and urine.

Since my method has neither the inconveniencies nor dangers of the salivating one attending it, since it is more certain, and since it can be employed in every case, it easily appears how preferable it is to that of salivation.

We shall proceed to the other method.

CHICOYNEAU and HAGENOT, two very eminent men, to avoid the inconveniencies and danger attending a salivation, applied externally the mercurial ointment in small

quantities; and, that they might prevent salivation, they interposed the use of purgatives.

But even by this method, Mercury, contrary to expectation, although rubbed in small quantity, brought on a salivation that was with difficulty restrained; and besides, the practice was very inconvenient, for I could frequently perceive that the cure was both slow and imperfect, from the Mercury being so suddenly discharged out of the body by the purgative.

Let us now examine the third method.

Among all the mercurial preparations, calomel, sublimate corrosive, red præcipitate, and the various panacea, are to be taken notice of; but all these are either acrid or poisonous,

sonous, and therefore neither can or ought to be given in large doses; and when given in small doses, they operate but slowly in destroying the venereal poison, from the small quantity of Mercury they contain.

Among these, the sublimate corrosive alone, as dissolved in spirit, is found the most efficacious; for its acrimony and poisonous nature is covered by the oil in the spirit; and when given properly with a demulcent decoction, it very seldom excites a salivation; the nauseous taste of the spirit may be corrected by a syrup, and for more weakly persons it may be prescribed diluted with water; and we most certainly learn from the experiments of LOCHER, and other very eminent persons, that in thousands of cases, this remedy has

been attended with remarkable good effects, when given prudently, and continued for a length of time, and as I myself, for more than five or six years, during the last war, found from my regimental practice.

I shall not enquire into the other methods of giving Mercury, because they are without efficacy, or exploded from practice. — Thus æthiops and cinnabar, so much recommended by BOERHAAVE * internally, in the cure of the venereal disease, are found to have no efficacy. — Thus some join quicksilver with purgatives; others with balsam of Peru, turpentine, camphor, and sugar: By these various additions, the evacuating power of Mer-

* Chem. T. II. p. 432, and T. I. p. 578.

cury is increased; it is too soon discharged by stool, urine, or sweat; nor do these additions, even when frequently repeated, restrain salivation; nay even by these means Mercury directs its course sooner to this excretory.

From all these circumstances it will appear that the gummy mercurial is to be preferred to all the other preparations hitherto known; because, during its use, the inconvenience and danger of a salivation are never, or but very seldom, to be apprehended, because it can be taken safely into our system in very large and sufficient doses, because it circulates readily with our fluids, because it operates sooner upon the venereal poison, and may be safely employed in every case whatsoever.

It may be proper to join the following corollaries to those conclusions already drawn :

1. Mercury alone is sufficient for destroying venereal poison.

2. Mercury, when topically applied to venereal parts, acts sooner and more certainly on the poison which topically exists in that part to which it is applied.

3. Therefore Mercury ought to be used both internally and externally at the same time.

4. Mercury more especially destroys the venereal virus in the solids of our body, and not the effects arising from such a virus. The diseases that remain after salivation sufficiently prove this.

5. There.

5. Therefore, during and after the use of Mercury, other remedies are indicated, and ought to be prescribed for venereal patients, according to the variety of their symptoms.

Hence no one ought to censure me, because, according to circumstances, I frequently joined other medicines to the mercurial ; but I will communicate the specific cure of every venereal disorder in another work.



CHAP. IV.

*A new Theory of the Action of Mercury
on the salivary Glands.*

OF all the animal fluids, Mercury has the greatest affinity with mucus.

Experiments 1, 2, 3, 4, 5, 6 evidently show, that Mercury is very easily extinguished by it, and that it afterwards remains extinguished although diluted with water, and kept for some months; nor does the same succeed with blood, serum

the yolk, white of an egg, or animal gluten.

Mercury, when extinguished by gum arabic, is similar to that which is effected by uniting it with animal mucilage, and by means of this menstruum it may be very readily mixed with the other fluids of our body. This is proved by Experiment 8.

Mercury, when taken by the mouth, or when absorbed into the blood, by being externally applied, first of all meets with mucus in the throat.

For being thrown out by the aorta into the carotids, it meets with no mucous glands, but in the throat and cavities of the nose; being carried here, it joins itself to the mucus by the principle of affinity and adhesion, and is retained in these glands,

glands, which it would pass, if the attraction of the mucus did not prevent it.

Hence it is understood, why there is a congestion of fluids and tumour in the throat before a salivation. And it is evident that this by no means proceeds from the circulation alone, or the impetus arising from the quicksilver, but the reason why the Mercury adheres to these organs is to be sought for in the singular affinity which it has with mucus.

This being first necessarily explained, I shall now mention some other circumstances, that we may understand the theory of salivation.

All the secretory system possess a specific irritability, by which means they are not excited into general action

tion by every stimulus, but only by some particular ones.

This is proved by many observations, and may be taken as a truth. Thus cantharides more especially stimulates the urinary parts, and those of generation; emeticks the stomach; purgatives, although injected into the veins of a dog, or externally applied to the abdomen of a child, will stimulate the intestines, and bring on Diarrhœa. The vapour from burning sulphur will irritate the nerves of the lungs, although it will not easily irritate the nose. The unfavoury juice of the beet, though void of acrimony, will excite sneezing *; a glaring light will violently affect the eye, which

* Cl. Professor CRANTZ, Mat. Med. T. I.

produces no change in the rest of our body.

It is therefore not repugnant to reason to say, that, by the same law, the organs that secrete mucus and saliva are irritated by Mercury, as a specific stimulus; so that the secretion of both becomes much greater than it was formerly.

This opinion, besides being founded upon certain principles, corresponds exactly with effects. I see, however, an objection that may be offered, which is this: that although it be allowed that Mercury may be united and retained in the mucus of the glands of the throat, and affect these organs by its stimulus, it does not from hence appear, why there is so plentiful a discharge from the salivary glands, since Mercury

cury is not so easily extinguished by saliva as by mucus.

This objection may be properly answered, and not from fancy, but from attending to the phænomena of nature.

A considerable flow of tears follow from a small grain of sand falling into the eye, and this, by irritating the lachrymal gland, although the sand had not, nor could ever have reached it. A copious flow of saliva will be produced, by the application of an acrid aromatic substance, to the end of the tongue, and thus the salivary glands are stimulated, altho' the stimulus be not applied to them, but to the papillæ of the tongue. — From a nausea of the stomach, a spitting is brought on, although the cause be in a distant part; and the throat,

throat being irritated by a feather, a large quantity of saliva will be discharged. Although therefore Mercury be accumulated more in the mucous glands of the throat, than in the salivary, yet the latter may be very powerfully irritated by sympathy, so that the salivary secretion is even more increased than that of mucus.

Therefore the cause of a salivation from Mercury, arises from its adhering to the mucous glands of the throat, and hence the salivary glands are stimulated by sympathy.

Nor does it seem surprizing, that the salivary glands are even irritated by bland Mercury, in its simple state, and not rendered acrid by salts; for it is not necessary, that an irritating stimulus should have acrimony; the
mild

mild juice of the beet irritates the nose, and excites violent sneezing: warm insipid water irritates the heart and intestines, and excites them into action: there is likewise a peculiar irritability in different parts of the human body, and there are likewise specific stimuli, which correspond to this.

Mercury extinguished by gum arabic cannot exercise its specific stimulus on the salivary glands.

All the practical observations related in Chap. ii. prove this. I have known some persons, who were very pituitous, take a large quantity of calomel without salivation; and I have known two others, who having had salivation excited by other mercurials, upon the taking of gum arabic emulsion, have it lessened, and at last removed.

From

From whence we learn, how wonderful and unexpected properties arise from the mixture of different bodies. A simple mucilage destroys the specific stimulus of Mercury; while at the same time its anti-venereal virtues are preserved! Hence the illustrious * VAN SWIETEN very properly prescribes for those who take his solution of sublimate corrosive, a large quantity of barley water, or of some such emollient decoction. These mucilages are the fittest for covering Mercury, so that it may not exert its stimulus on the salivary glands.

Mercury extinguished by mucus passes more easily into the blood, ei-

* In his letter to Cl. JOH. BENEVENUT, inserted Comment. de rebus in scient. nat. & med. gestis, T. v. p. 717.

ther by the primæ viæ, or when externally applied, than crude Mercury not extinguished.

For quicksilver, swallowed in its crude state, passes through the intestines, by its weight, nor does it adhere to them, and, although there is a large quantity of mucus in the primæ viæ, yet Mercury is not so well extinguished by it, as to remain united in the manner it does, when thoroughly extinguished by the pestle of a mortar: every body must allow the truth of this assertion. For the particles of Mercury thus mutually attract one another, and as long as this attraction is stronger, than the attraction with the mucus, there will be no extinction.

The mucous mercurial circulates more easily and equably through the vessels,

vessels, than when united with a fatty ointment.

Mercury has a less affinity with fat, than with mucus †. Hence frequently when Mercury is united with fat, it makes its escape from it in the body, and takes its course to the glands of the throat, and excites salivation; or to the mucous glands of the intestines, and excites diarrhœa, sometimes to the synovial glands, causing a stiffness of the joints, more especially to the knees, where there are a much greater number of mucous glands. I have observed that the throat, the intestines, and the joints are chiefly affected by Mercury.

On the other hand, when Mercury is extinguished by mucus, it readily

† Vid. Exp. 6. and Exp. 15.

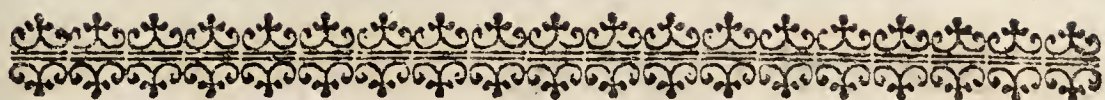
mixes with all the fluids of our body : and therefore safely circulates with them, through all the vascular system, and is equally distributed over the whole ; nor is there any reason for its remaining in the mucous glands, while it is previously saturated with a sufficient quantity of mucus.

Hence likewise we understand why the mucous mercurial, even though taken in large quantity, does not salivate, and why its power of curing the venereal disease is more expeditious than that of all the other mercurial preparations, since it is so equably diffused through the whole mass of blood, and can be taken with impunity in a larger dose than any other. My observations, as well as those of others, confirm this.

But

But how Mercury acts on the venereal virus in destroying it, no person can determine, unless the nature of this virus was perfectly known.

I am willing to confess my ignorance in this matter, and what I have advanced concerning the theory of salivation, I mean to be submitted to the judgment of eminent men, as hypothetical; and it will afford me pleasure, if any one will find out and demonstrate a better theory concerning the wonderful action of Mercury.



Mercurial Formulæ.

No. I. SIMPLE MERCURIAL SOLUTION.

R. Mercurii vivi depuratissimi, ʒj.

Gummi arabici, ʒij.

terantur invicem in mortario lapideo,
addito medio cochleari, aquæ fuma-
riæ, donec mercurius penitus dis-
pareat in mucum.

Exacte subactis admisce sensim
conterendo

Syrupi kermesini ʒss.

Aquæ fumaræ ʒviij.

D. S. mane & vesperi cochlearia duo.

No. II. BALSAMIC MERCURIAL SOLUTION.

℞. Balsami Copaivæ.

Gummi arabici ana ʒss.

terendo subigantur. Exacte subactis
adde sensim conterendo

Syrupi kermesini ʒij.

Aquæ fumaris ʒij.

tota hæc solutio misceatur cum priori
(No. I.) bene concussa vase denter
mane & vesperi cochlearia duo.

No. III. CAUSTIC SOLUTION for the CONDYLOMATA.

℞. Aquæ fortis ʒj.

Mercurii vivi ʒij.

Plumbi simpl. ʒiss.

fiat leni calore solutio.

No. IV. MERCURIAL SYRUP.

℞. Mercurii vivi ʒss.

Gummi arabici. ʒiss.

teranture

terantur invicem in mortario lapideo
addito medio cochleari aquæ fumaræ,
donec mercurius dispareat in mu-
cum,

senfim conterendo admisce

Syrupi violarum ℥ij.

Aquæ florum sambuci ℥j.

D. S. pro infante cochleare coffée
mane & vesperi.

No. V. MERCURIAL PILLS.

℞. Mercurii vivi ℥j.

Gummi arabici ℥ij.

Terantur invicem addito medio coch-
leari aquæ in mucum.

Huic bene subactō adde

Extract. cicutæ ℥j.

Pulveris liquiritiæ q. s.

m. f. pil. gr. ij. S. mane et vesperi sex
pro dosi.

No VI.

No. VI. SIMPLE MERCURIAL OINTMENT.

R. Mercurii vivi

Gummi arabici aa ℥ss.

Subigantur addito cochleari aquæ in mukum.

Huic admisce

Unguenti nutriti recent. ℥j. m.

d. ufui.

Subinde camphoram & saponem nigrum, quando tumoribus induratis, subinde balsamum quando ulceribus illud adhibui, addidi.

No. VII. SIMPLE MERCURIAL CERATE.

R. Mercurii vivi

Gummi arabici aa ℥ss.

Subigantur addito cochleari aquæ in mukum.

Adde ceræ liquefactæ & butyrī Cacao q. s. pro formando cerato, d. ufui.

APPEN-



A P P E N D I X.

THE different and even opposite opinions which prevail concerning the cure of the Venereal Disease, sufficiently prove that we are not yet properly informed of the most effectual means of eradicating it, and of determining the operation and action of Mercury, in such a manner as is best suited for the cure of particular symptoms. Inquiries into this subject should be made by persons well apprised of the difficulty, well acquainted with the disease in its various forms and appearances, and who had rather derive a reputation from performing radical cures, than from palliating particular symptoms, while the cause of the disease became more confirmed in the habit.

Were we to enter upon this subject, we should find it necessary to lay down principles that are positive and immutable, founded upon experience and observation, deduced from reason, and a thorough knowledge of the animal œconomy. The errors which have so generally prevailed, have arisen from conclusions drawn from ill-founded principles and false facts.

The nature of the Venereal Virus is perhaps unknown : it is too subtle to be examined by chymical analysis ; it can only be discovered in its effects.

Its operation upon the human body differs according to the parts which are primarily affected, to the manner in which it has been communicated, and perhaps, according to the degree of virulency in the original infection. In some it unites more readily with the fluid parts of the body, and produces

duces its effects in the different organs of secretion ; in others it attacks the more solid bones, and insinuates itself into their very substance. In some it causes the most fix'd and excruciating pains ; in others the most virulent and sanious ulcers ; in many it lays in the constitution, dormant and inactive, ready to break forth in various forms, and with much violence, from the operation of some occasional cause.

It is frequently difficult to distinguish it from other diseases ; and while it remains seemingly in an inactive state, it is multiplying itself in the constitution, and is even then contagious in its effects. It is likewise influenced by a diversity of temperament ; the most virulent infection in some constitutions produces a more gentle disease, while in others the slightest infection gives rise to the most violent and obstinate symptoms.

We likewise find from experience, that symptoms, which from their nature and appearance, threaten to become obstinate and sometimes fatal, will unexpectedly give way to some particular preparations of Mercury which have proved unsuccessful in the milder state of this disease. For this reason it is of the utmost importance to study the separate effects and operations of particular preparations; for there is no one method of cure absolute and infallible in every case which may occur.

The Venereal Disease is found frequently complicated with other disorders, which may render the use of Mercury improper; hence contrary indications occur which require the nicest judgment to determine; and the united operation of such medicines are necessary as may prevent the Mercury from injuring the constitution. Much
skill

skill and discernment is required to distinguish between urgent symptoms that require immediate assistance, and such as only arise from the direct action of the proximate cause, and which will naturally disappear when the cause of the disease is removed. The many indications which present themselves renders it absurd to suppose that there is one invariable method of curing this disease. The cure must be suited to the strength, age, sex, temperament and constitution of the patient, as well as to the state of symptoms.

Though there may be some one general plan of treatment preferable to most others, by which Mercury may be introduced in the greatest quantity, and in the most active state, by which sudden and great evacuations may be avoided, yet it is highly absurd to believe that all the

F 5
symptoms

symptoms of this disease can give way to any one method of administering this medicine. Without attending to the proper circumstances of the patient the most efficacious remedies may be improperly directed, and become even dangerous in their operation : tho' nobody can deny the efficacy of the Bark in the cure of Fevers, yet it ought not to be indiscriminately employed in every stage of Fever, and its operation may in some particular instances be rendered safer by a judicious combination of other remedies ; it is the same with regard to Mercury in the cure of the Venereal Disease. There are many imperfect cures from the use of some preparations of Mercury ; disagreeable symptoms follow the use of others ; and as in chymical combination it often acquires greater degrees of activity, and is more readily conveyed

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to

to act upon particular parts; a change in the preparation frequently produces a lasting and effectual cure, in such cases, where an obstinate perseverance in one treatment aggravated every symptom of the disease: An accuracy of judging, founded upon an extensive experience, is therefore necessary to determine the best method of cure, in what manner it is to be varied, according to the state and symptoms of the disorder.

Such is the nature of this disease, that its symptoms will readily disappear under a course of Mercury, while the cause of the disorder still remains in the constitution; the more acrid and saline preparations of Mercury produce more readily this temporary effect, and hence the relief afforded by them has exposed us to much fallacy. Warm bathing, and many external applications will for a time

remove Venereal eruptions and even Venereal pains; but so far are such external applications from promoting the radical cure, that they will sometimes produce a more inveterate disease, by determining the Venereal Virus upon the internal parts. Many Venereal Aphthæ or Chancres may easily be cured by external escharotics; but if Mercury is not properly administered, the disease will break out upon some other part of the body. A Gonorrhœa may be cured by injections, but it is liable to return again if Mercurials are not employed. It must be allowed however, that there are many local affections independent of any disease in the habit, which can only be cured by external applications to the diseased parts. And as the neglect of topical applications in such cases has been productive of infinite mischief, by conveying fresh infection

into

into the constitution, an early and a judicious use of external applications to a part recently and primarily affected, while an attention is still paid to the general habit, often lessens the quantity of infection introduced.

Mercury being considered as the only specific which can cure the Venereal disease, and its action in destroying the virus, independent of any evacuation or other sensible operation it may produce, all that by many is supposed necessary to cure this disease, is to prescribe this medicine in any form; and the practice by unktion, conducted in such a manner as to avoid a salivation, has been justly considered as one of the most certain and efficacious methods of cure; for by this means we avoid the disagreeable action of Mercury upon the stomach and intestines.

It is now generally allowed that salivation

livation is not necessary to the cure of the Venereal Disease, that the constitution is frequently impaired by it, that it exposes the patients to many inconveniencies, and that it limits us in employing the necessary quantity of Mercury, which is evacuated too early and before the cure can be effected: besides, instances occur every day in practice, where the disease has been successfully treated by an alterative course of Mercury after repeated salivations had proved ineffectual. In my opinion, we may with equal propriety say, that blisters cannot prove useful in the cure of fevers or topical inflammations, without producing a strangury, as to say that Mercury cannot cure the Venereal Disease without producing salivation; and the free use of gum arabic and other mucilages corrects the inflammatory acrimony of both upon the same principles.

Since

Since the publication of the last edition of this performance, I have had additional proofs of the superior efficacy of the precipitate I there recommended, and that its operation is frequently by urine.

I have had likewise farther proofs of the advantages arising from the internal use of Mercury properly triturated by gum arabic, in which form it is easy and gentle in its operation; it may be employed with safety in the most delicate constitutions under the most unfavourable circumstances: yet I must acknowledge, that there are some cases in which it has not answered my expectations, and where from the principles I formerly laid down I had recourse to other preparations with success. Mercury certainly acquires greater powers and activity by being united to acids, as in corrosive sublimate, in which state
its

its operation is determined more readily to the skin; and I have frequently seen venereal pains and diseases of the bones yield to this preparation, that had resisted salivation by unction: Mercury therefore, in some preparations, will cure more effectually than the same quantity could in others; but as in a saline form it is too acrid to be introduced in any considerable quantity, as in that state it seems rather calculated to remove particular and urgent symptoms, than to cure a habit universally diseased; we prefer the use of Mercury in the form of unction, or what will answer a similar purpose when rendered active by triture in the form prescribed below.

Though I believe the operation of Mercury in removing particular symptoms may be assisted by antimonials, sarsaparilla, mezereon, guaiac,
and

and other medicines, yet I am persuaded, that cures have been vainly attributed to these, which could not have been performed independent of the Mercury ; and from the prejudices generally prevailing against the use of Mercury, the public have been deceived by boasted specifics, which have been said to contain no Mercury, though such of them as have acquired any degree of reputation, have been found by a careful analysis to have Mercury in their composition.

As Mercury has proved so successful in the cure of the sciatic, obstinate chronic rheumatisms, and many other diseases ; as it is probably the best alterative medicine in glandular obstructions ; an attention to the comparative efficacy of its several preparations is of the greatest consequence. Every new preparation therefore

fore may bring additional virtues, and I earnestly recommend that precipitate from calomel prescribed below.

The general reception which Mr. PLENCK's performance has met with, in this country, as well as the novelty of his reasoning, led me to enquiries which could not fail of being of public utility, in so far as the result of them might throw considerable light on the nature of such preparations of Mercury as were but little understood, though allowed by modern practitioners to be the most efficacious, and the safest in the cure of the Venereal Disease.

I have always been much disposed to suspect the accuracy of the reasoning introduced by Mr. PLENCK in the chemical part of his work; but was determined, only, to find out its fallacy by such experiments

as were best adapted to the purpose. From these, and from practice, as well as from the observations of my friends, I may confidently assert, contrary to the opinion of Mr. PLENCK, that gum arabic has no specific affinity with Mercury ; that Mercury, when properly triturated with it, is powerfully active ; and that though perhaps it is less apt to salivate than other preparations, yet there is no means we can employ to obviate entirely the salivating power of Mercury in particular circumstances, but by such additions as will destroy its anti-venereal effects.

Mr. PLENCK has found from a variety of trials, that gum arabic in the state of a mucilage promotes the extinction of the globules of Mercury more than most other substances. In this opinion he is in some measure right ; but from the experiments
which

which I have made, I find honey in every respect well fitted for an expeditious extinction; gum tragacanth, though a less soluble substance than gum arabic, when converted by warm water into a state of mucilage, and kept in that form by heat during its triture with Mercury, seems even to promote the extinction of its globules more than gum arabic.

In fact, the circumstance necessary to effect this purpose, is the interposition of a body, more especially of a viscid nature, which will keep the mercurial particles at a distance from one another, till the proper triture be employed for producing a change, which we shall by and by explain.

Mr. PLENCK has most unphilosophically introduced the term of affinity to signify a combination, which he supposes to take place between
Mercury

Mercury and gum arabic: the term of attraction or affinity in chemistry is only applied to express that combination which takes place between two bodies, when they remain united together for any length of time, and when they only admit of a separation either by the force of fire or the interposition of a third body: nay, he goes farther, and endeavours to convince, that there is even a specific elective attraction between Mercury and gum arabic; but if this was the case, a change of properties should arise from their union, and if Mercury was previously united or triturated with other mucilages, gum arabic should, upon being applied, occasion a separation from them, and form a union with it itself. But Mr. PLENCK has brought no experiments in proof of this superior attraction; and I find from experiment that gum arabic only acts as

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a mucilage; that other mucilages will do the same; and from mixing equal quantities of honey and gum arabic together, I have obtained a more perfect triture than by gum arabic alone.

When Mercury is exposed to a long and tedious triture by itself, a quantity of it is converted into a greyish powder, which shows no globular appearance to the best microscope; and by this process it seems to have undergone a degree of calcination, and from being an innocent, and a safe, nay, even an inactive substance in its globular form, it has now become one of the most active preparations which we can employ.

Dr. BOERHAAVE bestowed a great deal of attention, in the preparation of this powder; he inclosed a quantity of Mercury in a phial, which he tied to the sail of a wind-mill; and notwithstanding a constant agitation for
fourteen

fourteen years, he was not able to procure any considerable quantity of it: the cause of the failure was his not giving an intestine motion to the particles of the fluid; it was a regular, uniform, and entire motion to the whole, and that in contact with a smooth surface.

I inclosed a pound of quicksilver in an iron box, with a quantity of iron nails, and a small quantity of water; I fixed the box to the wheel of a carriage, and during a journey of four hundred miles, I obtained two ounces of this greyish powder; I separated a small quantity every day by the assistance of the water, and added fresh water for a new separation *.

When I considered that the Mercury in its crude state might be

* It is here to be observed, that as Mercury admits of no union with iron, a proper utensil of that metal was the fittest for the purpose.

taken

taken internally in large quantities without its producing any sensible operation; it seemed to me improbable that the minute division of its parts, independent of any other change, could render it so active, as from experience we find it to be when triturated with viscid substances or dry powders. I therefore was led to enquire into these changes, which it was probable it underwent by triture, and for that purpose instituted the following experiments:

I triturated zij. of Mercury with ziv. of gum arabic, in the state of mucilage, till the whole acquired the colour of our mercurial ointment.

I diluted them with eight ounces of water, in consequence of which, a large quantity of mercurial globules, finely divided, immediately precipitated to the bottom: these I separated, and being allowed to stand till
 I dry,

dry, they run into one entire globular form, weighing ʒj. and gr. xlv.

The solution still continued impregnated, and afforded a strong mercurial taste, and whitened gold : after it had stood for some time it deposited a greyish powder, weighing gr. xij. which was not of a globular form, as far as I could determine from the microscope ; and when the liquor was filtrated, it no longer tasted mercurial, nor did it tinge gold.

From this experiment it appears, that during the triture with the gum arabic, about twelve grains of this greyish powder was produced ; that the impregnation and mercurial taste was owing to its minute diffusion in the fluid ; that however, no true solution had taken place ; for, by the assistance of the filtre, the Mercury was entirely separated.

I suspected likewise that the change of colour obtained by triturating Mercury with other substances, was entirely owing to the quantity of this powder produced, and to its minute diffusion. I therefore diffused gr. xij. of this powder in four drachms of mucilage of gum arabic, and obtained a colour much the same with what was produced from the triturating Zij. of Mercury with the four of gum arabic, agreeable to the experiment already related.

I found from similar experiments, that Mercury suffered the same change in honey, and gum tragacanth; and in proportion to the quantity of triture employed, the preparation was the more active; and the quantity of crude Mercury recovered, in consequence of a deposition, was the less.

From these experiments I was sufficiently authorized by analogy to suppose,

suppose, that Mercury, when triturated with axunge, and with turpentine and other oily substances, in the form of mercurial ointment, &c. underwent the same change; but I found great difficulty in recovering the crude Mercury from these, and separating or washing off the powdery, calcined, or colouring part: the difficulty chiefly arose from the whole not admitting of any union with water, so as to be properly diluted to favour the separation.

However, by preparing a soap with mercurial ointment, I was able to separate the oily part by means of an alkaline salt, and then the solubility of soap in water afforded me a means of recovering the crude Mercury, though by the intricacy of the process I could not obtain such an entire separation as to amount to an accurate experiment.

Mercury is not so readily divided and converted into its semi-calcined state by triture* with dry powders, though there are several preparations in the shops of this kind, as the mercurius alkalifatus, sacharatus, &c.

I took an ounce of mercurius alkalifatus, in which there were three drachms of Mercury, and added a quantity of vinegar to it, so as to dissolve the calcarious part, and I recovered all the Mercury, except five grains. Another proof that Mercury, during a long triture with an earthy body, does not suffer this change in any great degree, is the colour being little altered, and the medicine being very mild and gentle in its ope-

* The change which Mercury undergoes by triture seems to be the loss of a small quantity of its Phlogiston, which it readily recovers again by heat and the contact of inflammable matter.

ration,

ration, so as to disappoint us frequently in its effects.

These experiments sufficiently prove, that Mercury undergoes this change by triture, in a similar manner, though in a different degree, according to the nature of the substance employed; and that the colour produced depends on the quantity of Mercury converted into this state, *i. e.* on the degree of triture used.

I was now desirous of knowing how far the medical virtues resided in this powder; because, if I should find that to be the case, I could obviate the inconveniencies arising from the present mode of exhibiting Mercury as diffused in different bodies, and which depend on the uncertainty of the effects, from the unequal degree of triture employed.

The different means hitherto employed for converting Mercury into

this state of activity, being tedious and expensive, I bestowed some attention in considering how I might produce the same change by an easier operation. However, I first ascertained the properties of this powder, that I might be enabled to make comparative tryals of it with others. In the first place it retains the power of acting on gold, of giving it the colour of silver, and this power it loses when united either with sulphur or acids: it is converted by a small degree of heat into a powder of the same colour with the mercurius calcinatus finely levigated. As mercury is rendered so active by the addition of acids, and has its phlogiston on which its globular form depends, detached by these, I did not doubt, but by such means as would entirely separate the acid and preserve the calcined state of the Mercury, I could
 produce

produce a preparation which on chymical tryal would in every respect be found the same with the greyish powder obtained by triture, and which would produce the same effects in the practice of physic.

For this purpose I chose to have recourse to calomel, as being that preparation in which the acid is in the smallest proportion, and where the Mercury is the least deprived of its phlogiston, and where a less intimate combination takes place than in corrosive sublimate, though the same acid be employed. I added to zij of calomel zij of vol. alkali; the calomel was immediately changed into a dark greyish colour; I washed this powder with pure water, and on weighing it, found it had lost gr. xij ; on examining the vol. alkali, I found it changed into an ammoniacal salt, formed by the acid of the calomel: this precipitate when

applied to gold produced the same effect as the powder obtained by triture, and when applied to the same degree of heat was converted into the same appearance; and it lost these properties on the application of an acid of any kind.—The same effects nearly happened on adding the fixed alkali, or lime water, to calomel. From every view of the subject, I was led to believe, that Mercury both by triture and by precipitation from calomel had undergone a similar change. And as the calcination of Mercury by fire into the state of mercurius calcinatus, is an expensive and tedious process, and as, from trial, I had found that preparation an efficacious medicine, I did not doubt, as this powder seemed to be produced by a less degree of calcination, that by committing it to proper vessels, and applying a necessary degree of

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of heat, I could obtain a mercurius calcinatus in a much shorter time *.

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* The black, or grey powder of Mercury, obtained by triture, when exposed to a considerable degree of heat in close vessels, is reduced to its former state of quicksilver; as is likewise the mercurius calcinatus *per se*. If Mercury be detained for several months in close vessels, in the heat of 180 degrees, a part of it is converted into a powder of the same kind with that obtained by triture: and if this heat be increased, and continued for eight or ten days, that black powder becomes mercurius calcinatus *per se*.

Dr. BOERHAAVE exposed Mercury to the heat of 100 degrees of FAHRENHEIT'S thermometer for fifteen years and a half, during which time it underwent no change; but a very small quantity of the greyish powder was produced on its surface, which, by triture alone, returned to the state of quicksilver.

Such is the indistructible nature of quicksilver, or its resistance to any permanent change, that after distilling it five hundred and eleven times, it was not altered in its nature. — And that either an increase of heat,

I therefore took 3j. of the precipitate from calomel, and put it into a sand heat in a small phial for eight days, and found it turned into a reddish powder, in every respect the same with the mercurius calcinatus, finely levigated; I prescribed it in medicine in the usual doses, and perceived similar effects from it, as from the mercurius calcinatus made in the common way.

or even triture alone, is sufficient to reduce either the black powder, or mercurius calcinatus, to their state of quicksilver.

The precipitate obtained from calomel, is reducible by triture, or an application of a considerable degree of heat in close vessels; and by the continuation of a more moderate degree, is converted into a mercurius calcinatus *per se*.

As it appears from the analysis of KEISER's pills, as mentioned by Dr. ASTRUC, that they are a combination of vegetable acid, or vinegar with Mercury, effected by triture; they may easily be prepared, by adding that acid to the precipitate from calomel, which it readily corrodes.

If I am right in my general doctrine, that the activity of Mercury by triture depends on the quantity of it converted into this calcined state; it suggests a ready method of preparing this powder from calomel at a small expence, which, when diffused in gum arabic, would give a more steady preparation than the solution of Mr. PLENCK; or when diffused in axunge, would afford a mercurial ointment which might easily be prepared, and by the use of which, I could accurately ascertain the real quantity of Mercury introduced into the body.

And that both these positions are true, will appear from the medical effects delivered below.

Though Mr. PLENCK's chemical reasoning is founded on erroneous principles, yet it must be allowed that his method of giving Mer-

cury, is attended with many advantages: salivation, though sometimes produced by it, is less violent, and more easily conquered: the powers of digestion are not in any degree impaired, and the most frequent evacuation which follows its use, is an increase of urine. The saline preparations never agree with weak stomachs, they are apt to gripe, they very frequently excite a fever, and from the small quantity of Mercury which can be swallowed in the form of corrosive sublimate, that medicine in general rather gives a palliative than a radical cure; at the same time, it must be owned, that there is a necessity for having recourse to some variety of preparation, because I have seen symptoms which were truly venereal yield to one preparation, and not to another. In general copper spots on the face,
and

and other venereal eruptions on different parts of the body, yield readily to corrosive sublimate, whose operation seems chiefly directed to the skin; yet even after they are to all appearance gone, unless a larger quantity of Mercury is introduced into the constitution, a radical cure is not effected.

I have known patients, who have had violent fevers excited by Mercury applied in the form of unction, bear the corrosive sublimate with impunity; and I have known several cases where inflammatory symptoms, arising from the use of Mercury, were removed, by drinking large quantities of the mucilage of gum arabic, the decoction of barley, and the like: so that there seems to be an advantage in combining the gum arabic with Mercury, though not explicable on Mr. PLENCK's
prin-

principles. An eminent surgeon assures me that he can moderate any salivation by the internal use of gum arabic; and VAN SWIETEN is very positive in ordering barley-water along with his sublimate corrosive.

It has been long admitted as a fact by physicians, that when Mercury is triturated with sulphur in the form of *Æthiops mineral*, it is in a great measure deprived of its power of acting: and after I was entirely satisfied, from a variety of trials on the human subject, of the accuracy of this observation, I proposed to make a chemical enquiry into the state of the case. After triturating one part of Mercury with two of sulphur, into the form of an *Æthiops*, I could obtain no separation of it from the sulphur, but by having recourse to the application of a third body, with which the sulphur had a superior degree

gree of attraction, such as alkaline salts, calcareous earth, iron and some other metals; the Mercury by a short triture lost its globular form, and was deprived of the power of tinging gold; all these afforded me sufficient proofs of the Mercury's having united with sulphur by attraction in the way of chemical mixture, by which its power of acting is diminished: in the same manner when an acid is united with an alkali in the form of a neutral salt, its properties as an acid are destroyed, it can only be separated from the alkali by elective attraction, and a *tertium quid* (in the language of chemistry) is produced. A certain degree of saturation takes place in the combination of sulphur with Mercury; for if more Mercury be employed than saturates the sulphur, the remaining quantity will be diffused in the æthiops as an aggregate

gate body, and afford a combination of real efficacy.

I have frequently prescribed sulphur to moderate a salivation, but with very little effect; it can hardly be expected that the same chemical combination will take place in the human body, as by triture may be effected out of the body. I shall not at present make any observations on the other preparations of Mercury, reserving these for a future occasion; but will subjoin a few cases, which have come under my own observation; and such others as have been communicated to me by my friends, have tended to conform me in my opinion of the advantages arising from this preparation.

C A S E I.

A married lady (whose husband had been frequently affected with

venereal symptoms) complained of pains in her bones, more especially in those of her arms and legs, and chiefly seated in their middle; they were always increased by the heat of the bed: copper-colour'd spots appeared in different parts of her body, more especially, however, on her forehead and arms, and a large node was very perceptible on the tibia: without giving the disease a name, either to the husband or the lady, I proceeded on the supposition of its being venereal.

I ordered her to take Mr. PLENCK's solution, by using, however, double the proportion of gum arabic which he prescribes; and after the use of two spoonfuls of it morning and evening for the space of a fortnight, the pains entirely left her; the spots and the node still continued; the former however was more obscure, and the latter

latter more moveable; I rubbed a small quantity of mercurial ointment on the node, and by the internal use of the mezereon, and the gummy mercurial solution, in the space of a month every symptom disappeared.

Notwithstanding this lady being of an irritable habit, and subject to flatulent and spasmodical complaints in her stomach, her appetite, during the use of this medicine, was considerably increased, and the only sensible evacuation it produced was by urine.

C A S E II.

A young gentleman, without a preceding gonorrhœa, was affected with shankers on the prepuce and glans, and had a bubo in his groin, much inflamed, and advancing fast
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to a state of suppuration; he applied to a surgeon, who suggested the necessity of promoting the suppuration, as the only possible means of evacuating the venereal virus; accordingly he confined the patient in a warm room, allowed him to indulge freely in a full diet, and he had recourse to mercurial unction: the gentleman being seized with a fever, I was sent for, and he communicated to me his venereal complaints. His pulse was quick and hard; he complained of pain in his back, head-ach, thirst, and other such symptoms as I had frequently seen arise from a mercurial course conducted on the plan here prescribed.

I ordered him to be blooded ad ℥xij. to omit his unction, to drink large quantities of a solution of gum arabic in water, and likewise ordered him a purging mixture

ture of soluble tartar and manna; his fever left him next day, but the size and inflammation of his bubo still continued, and was such, that he could not walk. I was desirous of resolving this tumor, if possible, from having very often seen ulcerated bubos suppurate unkindly, though opened by and under the direction of the most skilful surgeons. I ordered three leeches to be applied on the part, by which means a considerable quantity of blood was obtained, the throbbing pain and tension much abated; I omitted the use of the Mercury for a few days, because I suspected that it had contributed to bring on the former inflammatory symptoms, which would have accelerated the suppuration. I then had recourse to Mr. PLENCK's medicine, with an anti-phlogistic regimen; I allowed the patient to walk out;

out; I desired that he might keep himself perfectly cool; and by pursuing this plan for a fortnight, he became perfectly well, and the tumor disappeared. I ordered the shankers to be dressed with an ointment prepared of two parts of unguentum simplex, to one of calomel, and they were readily healed.

I have, in a variety of other cases, found this ointment the most efficacious of any; it will frequently heal shankers, though the venereal virus be still in the constitution, but we are, by no means, to trust to it alone in such cases.

C A S E III.

A gentleman, who had submitted to repeated salivations for a small ulcer on the uvula, which he suspected to be venereal, applied to me for
farther

farther advice. Upon enquiry I found that some months before, he had shankers, which gave way readily to an external application which he had got from a quack, and he therefore neglected the internal use of proper mercurials for the purpose of a radical cure.

He was of a delicate and irritable constitution, and half an ounce of mercurial ointment was generally sufficient to produce a salivation; during the salivation he was subject to a diarrhœa, for which his surgeon had ordered him opiates; his mouth and fauces were always considerably inflamed, and small ulcers appeared on his lips and neighbouring parts, which were, however, only the effects of the Mercury; the original ulcer still continued in the same state. When I saw him he was so emaciated, that I did not think it proper to

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put

put him immediately on a mercurial course, though I was convinced that Mercury was the only medicine which could cure him.

I therefore omitted his mercurials for a week, encouraged his living on a full diet, and recommended exercise in a chariot. After he had acquired some strength by these means, I prescribed Mr. PLENCK's solution, which in the space of a few days began to affect his mouth; I then omitted it, and ordered him to drink freely of a solution of gum arabic, till the mercurial taste and spitting were gone: I returned him to the use of Mr. PLENCK's medicine, and allowed him to go abroad in the open air, advising him not to keep his throat warmer than in health; he then perceived no salivating effects from it, and in the space of a fortnight was entirely cured.

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There is nothing tends to promote salivation so much as warmth, especially the wearing of flannels about the throat; and as Mr. PLENCK, VAN SWIETEN, and many others have sufficiently explained the many inconveniencies arising from that evacuation; and that it constantly retards a cure; I endeavour on every occasion to avoid it.

A gentleman of my acquaintance was under the care of Mr. KEISER at Paris, for the cure of the lues venerea; he confined himself to the house, and encouraged warmth, especially about his throat; he lived on a low diet, and a salivation was about to come on, which, however, was prevented by Mr. KEISER's advising him to lay aside his flannels, to walk abroad, and to live as usual.

The following cases were communicated to me by a Physician :

A gentleman applied to me with ulcers in his throat, a difficulty of swallowing, and a swelling of the glands of his neck, which I suspected to be venereal from his having a gonorrhœa, attended with a very virulent discharge ; the inguinal glands were considerably enlarged and painful.

I began, by giving him two spoonfuls of the arabic solution morning and evening ; it neither griped him or made him sick ; and though he could not perceive any sensible evacuation from it, in two days the foreness of his throat, and difficulty of swallowing, were considerably relieved ; in the space of three weeks all his complaints left him.

A delicate young married lady, complained of flying pains in her
H bones,

bones, which were evidently worse during the night-time; eruptions also appeared in different parts of her body, for which she had taken a variety of medicines, by the advice of an apothecary, without receiving any benefit; they were now become large blotches, of a copper coloured appearance, and the pains were more fixed, especially in her forehead, where there was a lump or swelling, which seemed to be a thickening of the periosteum.

I communicated to the husband my suspicions of its being venereal, reminding him, however, that he was under my cure for a venereal complaint in his mouth, immediately before his marriage; and as there was no reason to suspect the virtue of his wife, that accounted for the infection. He was desirous of the cure being kept an entire secret from his wife; and

and I therefore prescribed Mr. PLENCK's medicine, and she began with a spoonful of it morning and evening, which I soon increased to two spoonfuls, and ordered her to rub the pained and tumified part on her forehead, with an ointment of pomate, camphor, and calomel, and to touch the copper-colour'd spots with it when she went to bed. It was surprizing to observe the sudden good effects; the very first dose seemed to relieve her; she daily recovered her spirits, her complexion, and even her appetite; she suffered no confinement, nor did the medicine ever affect her mouth; in about six weeks she was entirely cured.

There is no internal mercurial so well adapted for the cure of the gonorrhœa as this; and, where injections are employed, its internal use should constantly accompany them;

it very effectually abates the ardor urinæ, which it does partly from its acting as a mercurial without inducing inflammation, and partly from the gum arabic accompanying it.

From these and a variety of other instances which I could mention, I was sufficiently convinced of the efficacy of this preparation of Mr. PLENCK's, and that it had even advantages over most others. However, I considered it as still subject to the inconveniency of being unequally prepared at different times, from the impossibility of ascertaining the degree of triture employed, on which its efficacy so much depended.

I therefore had recourse to the precipitate from calomel, after finding out, by experiment, that it was the same in every respect with the greyish powder obtained by triture, on which the medical virtues of Mr.

PLENCK's

PLENCK's medicine and all mercurial preparations diffused in dry powders or viscid substances seem to depend. By having such a powder, which might at pleasure be mixed with gum arabic or honey, for an internal medicine, or in axunge for an ointment; the dose of the mercury could be readily ascertained; and such variety as would then arise in its action, could only proceed from a difference of constitution in the patient, or of symptoms in the disease.

As two drachms of Mercury, by a long triture, yielded gr. xij. of this powder, and as I generally directed a patient to take that quantity of Mr. PLENCK's medicine in the space of four or five days, I regulated the dose of this powder, in much the same manner, and diffused gr. xij. of it in a mucilage consisting of ʒij of honey, and two of gum arabic; which being
diluted

diluted in the same manner as that of Mr. PLENCK's, was taken in the space of four days ; so that the patient took gr. iij. of this powder in a day ; and in a variety of venereal complaints I found it in every respect as efficacious as Mr. PLENCK's solution consisting of two drachms of crude Mercury.

This preparation from calomel is infinitely more active and soluble than most others : on taking the smallest quantity into the mouth the brassy taste is immediately diffused ; and if gr. iiij. is taken for a dose without dilution, it occasions sickness at the stomach, and sometimes purges.

It produces the most immediate effects on the constitution, it conquers the venereal virus in the most remote parts of our system, and no confinement is necessary during its use.

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By taking half a drachm of this powder, and diffusing it in an ounce of axunge, a strong mercurial ointment is prepared, which salivates readily, and proves equally active with the same quantity of mercurial ointment made by using $\mathfrak{z}\text{ss}$ of quick silver *.

From these experiments and observations it appears, that the most safe and efficacious way of giving Mercury internally, is by diffusing it in gum arabic, honey, or other viscid substances; that its action then depends on the quantity of triture which has been employed, by which a greater or less quantity of it undergoes a change, which seems to be a degree of calcination: it is likewise

* Since the publication of the Second Edition of this Appendix, I have recommended Mercurial ointment in the proportion of $\mathfrak{z}\text{j}$ of this Powder to one ounce of axunge.

proved, that Mercury may be made to undergo this change by an easier and less tedious process, as above described; and that the powder thus obtained, will, when diffused with gum arabic or oily substances, afford us preparations more steady and uniform in their effects. I would therefore recommend it to surgeons and apothecaries to keep this powder prepared in the shops, so that it may be made up with gum arabic and honey into the form of pills or draughts, or with axunge into the form of an ointment, to be used occasionally *.

* As all metallic præcipitates are difficultly suspended in a fluid, it is probably better to prescribe this powder in the form of a pill or bolus.

F I N I S.